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ABSTRACT

Three presentations are provided from Symposium 32, Core Directions in HRD (Human Resource Development), of the Academy of HRD 2000 Conference Proceedings. "Exploring the Convergence of Political and Managerial Cultures in the Dominican Republic: Implications for Management Development and Training" (Max U. Montesino) reports a survey of five work organizations, which shows that some indicators of authoritarian behavior identified in the context of the country's political culture are reflected in manager-subordinate relations at work. "The Types of Verbal Interactions and Impact of Gender in Corporate Training Sessions" (Frances L. Good, Gary N. McLean) discusses a study of verbal interactions in 13 selected training sessions using the INTERSECT Instrument, which found more than two-thirds of interactions were acceptance (the instructor's acknowledgement of a response); remediation accounted for about 21 percent, and praise, 11 percent of interactions. "Developing Human Potential through Anthropocentric Work Organization" (Jonathan Winterton) investigates HRD practice in four workplaces with different forms of work organization. A theoretical model is outlined for categorizing approaches to work organization in terms of level of skill and degree of autonomy. The paper reports work organization affects HRD and job satisfaction, and the most positive effects are associated with greater skill and autonomy. The papers contain reference sections. (YLB)

2000 AHRD Conference

Core Directions in HRD

Symposium 32

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Exploring the Convergence of Political and Managerial Cultures in the Dominican Republic: Implications for Management Development and Training

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This paper reports descriptive data from a survey of five work organizations in the Dominican Republic. Survey items included managerial styles, followership types, power bases at work, delegation of authority, and beliefs about authority at work. Data from this small-scale survey showed that some indicators of authoritarian behavior identified in the context of the country's political culture, are reflected in the relations manager-subordinate at work. Implications for management development and training are discussed. This is a work in progress.

Keywords: Management, Followership, Dominican Republic

Some authors suggest that, regarding human behavior at work, there are discernible differences between people in developed and less developed countries (Harrison, 1985; Kiggundu, 1989). Other scholars (Hofstede, 1980; Ronan & Shenkar, 1985) point to the nature and direction of these differences from culture to culture, in regards to dimensions such as power distance, individualism-collectivism, femininity-masculinity, uncertainty avoidance, and so forth. An aspect that has rarely been investigated is the influence a nation's political culture exerts on the values and practices of managers and employees at work.

This paper reports the descriptive findings of a small-scale survey that explored this convergence in the Dominican Republic, using a purposive sample of five (5) work organizations.

Many scholars attribute an inherent authoritarianism to leaders in Latin America (Fromm & Maccoby, 1970; Harrison, 1985; Kras, 1994; Lauterbach, 1966; Veliz, 1980), and in the Dominican Republic in particular (Brea, 1987; Clime, 1994; Duarte, Brea, Tejada, & Baez, 1995; Duarte, Brea, Tejada, Baez, 1996; Duarte, Brea, Tejada, 1998; Oviedo, 1987). The influence of authoritarianism in organizations is believed to help create followers/subordinates who are mostly obedient, submissive, acquiescent, dependent, and uncritical thinkers (Almond & Verba, 1963; Erasmus, 1968; Kras, 1994).

Some scholars (Todaro, 1974; Tulchin, 1983) have voiced concerns about the validity of the generalizations made by some of the authors cited above. Some empirical evidence that seems to contradict such generalizations is also found in the literature (Booth & Seligson, 1984; Farris & Butterfield, 1972; Fuller, 1992; Gaitan, Davila, & Zarruk, 1985; Weis, 1994; etc.). Some hope is also voiced in accounts of those who have studied organizational behavior in Latin America recently (Montesino, 1998).

The portion of the survey reported here explored the extent to which the alleged authoritarian values permeating the political culture [as reported by Brea (1987), Clime (1994), Duarte, Brea, Tejada, & Baez (1995), Duarte, Brea, Tejada, Baez (1996), Duarte, Brea, Tejada (1998), Oviedo (1987)], manifest themselves in the context of the managerial culture in the Dominican Republic. As it pertains to this paper, the researcher wanted to know: a) what is the predominant managerial style in the context of the five (5) work organizations in the Dominican Republic that agreed to participate in the survey? b) what is the predominant followership type encountered in these five different work environments? c) What is the power base of leaders/followers in these organizations? and d) what are the implications of these findings for management development and training? The author posed other research questions that were not discussed here. This paper only reports descriptive data from selected survey items related to managerial styles, followership types, power bases at work, delegation of authority, and beliefs about authority at work. Several other items (not discussed here) were included in the survey.

Methodology

A purposive sample of five (5) work organizations was selected for the survey. The author convinced the organizations to participate in the survey, as long as they remain anonymous. The taxonomy developed by Jorgensen, Hafsi, & Kiggundu (1986) was used to select the work organizations. Their taxonomy includes four types of work organizations typically found in developing countries: a) governmental and state-owned enterprises, b) entrepreneurial family-owned

firm, c) the industrial cluster, and d) the multinational subsidiary. Corresponding to this taxonomy, four work organizations were selected for the survey. A fifth organization was added by the author (a non-governmental organization-NGO) to complete the purposive sample.

A survey was administered to the employees of the five work organizations. The questionnaire was translated to Spanish and pilot-tested in winter 1998. The survey took place during the summer of 1998 in the Dominican Republic; funded by a Faculty Research Grant from Indiana University-Purdue University at Fort Wayne (IPFW). The questionnaire contains items generated by the author and others derived from several models developed by organizational-behavior researchers. The items related to "managerial styles" were adapted from Hofstede (1980) and Schaub (1978). Survey questions addressing "power bases" were derived from a survey conducted by Jannembaum, Rozgonyi, and others (1986) in Mexico, Bulgaria, Romania, Hungary, Germany, and Ireland, based on French & Raven's model (1959). The author was authorized to translate to Spanish these items by the Institute for Social Research at The University of Michigan. The items related to "delegation at work" were adapted from Jannembaum's delegation levels (1958). Followership types were derived from Kelley's followership model (1988). Some of the items addressing beliefs about authority at work were generated by the author and others were adapted from Duarte, Brea, Tejada, & Baez (1995).

The five work organizations that were surveyed are: a) two industrial companies [45 respondents out of a combined payroll of 232 employees], b) one branch of a governmental bank [17 respondents out of 30 employees], c) one multinational subsidiary [7 respondents out of 13 employees], and d) a non-governmental organization [32 respondents out of 51 employees]. One hundred and twenty six (126) employees responded the survey.

Discussion of Results

Managerial Styles

The subjects were given four (4) paragraphs describing four different ways in which managers and supervisors make decisions and allow the involvement of subordinates in the decision-making process. Adapted from Hofstede's model (1980) of "power distance" and the survey used by Schaub (1978) in Argentina, Canada, France, Germany, India, Japan, The Netherlands, and the United Kingdom, the four managerial styles given to the subjects were the following:

- | | |
|-----------|--|
| Manager 1 | <i>Usually makes his/her decisions promptly and communicates them to his/her subordinates clearly and firmly. Expects them to carry out the decisions loyally and without raising difficulties.</i> |
| Manager 2 | <i>Usually makes his/her decisions promptly, but, before going ahead, tries to explain them fully to his/her subordinates. Gives them the reasons for the decisions and answer whatever questions they may have.</i> |
| Manager 3 | <i>Usually consults with his/her subordinates before he/she reaches his/her decisions. Listens to their advice, considers it, and then announces his/her decision. He/she then expects all to work loyally to implement it whether or not it is in accordance with the advice they gave.</i> |
| Manager 4 | <i>Usually calls a meeting of his/her subordinates when there is an important decision to be made. Puts the problem before the group and invites discussion. Accepts the majority viewpoint as the decision.</i> |

Then the subjects were asked seven (7) questions requiring them to identify the boss' style, their own, and those of others around them, from the four (4) options described above. The scale was from 1 to 4, reflecting the continuum of subordinate's involvement in decision making allowed from managers, which is explicit in the description of the four (4) managerial styles described in the previous paragraph. Table 1 shows the descriptive results. As shown below, the respondents of this survey perceive leaders at work, Dominicans in general, and Latin Americans in general as allowing little subordinate's participation in decision making. The data show similar tendencies found by Duarte, Brea, Tejada, & Baez (1995), Duarte, Brea, Tejada, & Baez (1996), and Duarte, Brea, & Tejada (1998) in their national studies of political culture in the country. That is, taken as a whole, the 126 employees of the five work organizations

surveyed in this purposive sample concurred that their bosses show somewhat authoritarian styles of management at work (mean of 2.58), very much the same way that Dominicans in general perceive their leaders in the political arena. Likewise, the employees reported that they would prefer to work under less authoritarian bosses (3.27) and considered that participative management is more effective at work (3.35). The tendency became a lot more pessimistic when the subjects were asked to compare the majority of managers in work organizations in the country (mean of 1.67), Dominicans in general (mean of 1.57), and other Latin American citizens they know (mean of 1.83).

A one-sample test of means showed that the difference between "perceived management style" (question #2, mean=2.58) and "preferred management style" (question #1, mean=3.27) was statistically significant. This test shows further the disconnection between the way the respondents are currently managed and the way they would prefer to be managed.

Table 1
Managerial Styles

Question	Resp.	Mean	Std.Dev.
1) Under the authority of which of the managers described above would you prefer to work?	126	3.27	1.08
2) Which of them best describe your current boss?	126	2.58	1.24
3) Which one best describe most of the managers and supervisors in your organization?	126	2.24	1.22
4) Which one best describe most of the work leaders in the Dominican Republic?	125	1.67	0.97
5) Which one best describe the Dominicans in general	126	1.57	0.97
6) Which one best describe other Latin American citizens you know?	125	1.83	1.06
7) Which one you believe would be more effective at work?	126	3.35	1.02

Followership Types

The subjects again were given five (5) paragraphs describing five different followership types, derived from Kelley's model (1988). Kelley's model is based on two dimensions of followership: a) the extent to which employees show independence and critical thinking, and b) their passivity/activity in organizational affairs.

- Employee 1 *Is dependent, passive, and uncritical thinker. He/she does as he/she is told.*
- Employee 2 *Is active in the organization, but also dependent and uncritical thinker. He/she reinforces leader's idea and thinking enthusiastically without challenge or criticism.*
- Employee 3 *Is cautious, takes little risk. Non disruptive, tests the waters before asserting himself/herself in word or deed.*
- Employee 4 *Is independent, critical thinker, but passive. Somehow, sometime, something turned him/her off.*
- Employee 5 *Is independent, critical thinker, and active in the organization. Tends to think for himself/herself, and carry out his/her duties with assertiveness.*

The subjects were asked seven (7) questions requiring them to identify the boss' type, their own, and those of others around them, from the five options given. The scale was from 1 to 5, reflecting the continuum of activism, independence, and critical thinking exhibited by employees, which is explicit in the description of the five (5) followership types described in the paragraph above. Table 2 shows the results.

The data below show that the respondents to this survey perceived most of their peers (mean of 2.47), most of the employees in the country (mean of 2.27), the Dominicans in general (mean of 2.39), and other Latin American citizens they know (mean of 2.46), as exhibiting little activism, independence, and critical thinking abilities at work. By the same token, their description of the followership type of those they manage (mean of 2.37) is a lot different from the type of follower they consider to be more effective at work (mean of 3.97). A one-sample test of means revealed that the difference between "perceived followership type" (question #1, mean=2.37) and "preferred followership type" (question #7, mean=3.97) was statistically significant. The results of this test further show the disconnection between the way the respondents see their own employees as followers and the type of employees they prefer to work with as subordinates.

Table 2
Followership at Work

Question	Respondents	Mean	Std.Dv.
1) Which one best describe most of the employees you manage?	126	2.37	1.34
2) Which of them best describe your current boss?	126	3.29	1.62
3) Which one best describe the majority of your peers?	126	2.47	1.27
4) Which one best describe most of the employees in the Dominican Republic?	126	2.27	1.15
5) Which one best describe the Dominicans in general	126	2.39	1.13
6) Which one best describe other Latin American citizens you know?	126	2.46	1.39
7) Which one you believe would be more effective at work?	126	3.97	1.51

Delegation Levels

The respondents were asked three questions regarding their delegation levels: a) how their immediate supervisor delegates authority at work, b) how they themselves delegate, and c) how they would like to be delegated to. The response categories included a continuum of subordinate's authority in the delegation process from 1 to 4, adapted from Tannenbaum's delegation levels (1958). The four levels are:

- Level 1 *Authority retained by supervisor.*
- Level 2 *Supervisor's approval obtained before employee takes action.*
- Level 3 *Employee acts and then reports to supervisor.*
- Level 4 *Employee has complete authority delegated.*

Table 3 shows the results of the three questions, as follows:

Table 3
Delegation Levels

Question	Resp.	Mean	Std.dev.
1) Which of them best describes you when you delegate?	126	2.52	1.12
2) Which of them best describes your current boss?	126	2.67	1.03
3) How would you prefer to be delegated to?	126	2.97	1.07

As shown above, the subjects provided very similar answers to the three questions related to delegation at work. The way they see themselves, their bosses, and the way they prefer to be delegated to reveal a limited level of

subordinate authority in the delegation process. A slight difference is observed between the "perceived" delegation level on the part of their bosses (question #2, mean 2.67) and their "preferred" delegation level (question #3, mean 2.97).

Power Bases at Work

The power bases used by Tannenbaum, Rozgoni, and others (1986) plus additional ones were operationalized as statements with which the respondents expressed their degree of agreement from 1 (none) to 5 (a lot). Only the statements were given to the subjects. The names of the power bases are reported here to help the reader understand the meaning of each statement. The question was: *when you do what your immediate supervisor requests you to do on the job, why do you do it?* The italicized statements below were given in the order they appear here, for the respondent to choose their degree of agreement. The results are as follows:

Table 4
Power Bases at Work

Power base	Statement in the Questionnaire	Mean	St.Dev.
Expert power	<i>I respect his/her competence and judgement.</i>	3.21	1.70
Reward power	<i>He/she can give special help and benefits.</i>	1.90	1.60
Referent power	<i>He/she is a nice person.</i>	2.29	1.73
Coercive power	<i>He/she can penalize or otherwise disadvantage me.</i>	1.33	1.28
Position power	<i>Strict hierarchy is needed for the organization to operate properly.</i>	3.24	1.73
Information power	<i>He/she provides the information I need to work.</i>	2.91	1.74
Persuasive power	<i>He/she convinces others using logical arguments and factual evidence.</i>	2.55	1.83
Charismatic power	<i>His/her charisma (enthusiasm and optimism) attracts me.</i>	2.17	1.77

Table 4 shows how much the idea of hierarchy is rooted in the minds of the respondents. The legitimacy of position power stands out as one of the main reasons why employees do the job they are told to do by their immediate supervisor (mean of 3.24). The second power base is the technical competence of the immediate supervisor (3.21), followed by information power (mean of 2.91) and persuasive power (mean of 2.55).

Beliefs About Authority at Work

Eleven (11) statements regarding the manager/subordinate relations at work were given to the subjects instructing them to check all of those with which they agree. One hundred and twenty six subjects answered this question. Table 5 lists the statements and the number of subjects that showed agreement with each statement.

Table 5 reveals tendencies that practitioners have speculated about: a) the persistence of authoritarian values that percolate from the political to the managerial culture, b) a decline in the subjects' identification with verbal expressions that perpetuate autocratic practices at work, and c) an underlying support for more participation at work, very similar to the underlying support for democratic institutions in the political realm, as found by Duarte, Brea, & Tejada (1996) and Duarte, Brea, & Tejada (1998). The subtle impact of the values and practices of the political culture on managerial philosophy and practice is reflected in the high number of respondents (49.2%) who checked item #2 (*prefer more order at work, even if there is less democracy*). This percentage is proportionately similar to the one found by Duarte, Brea, Tejada, & Baez (1995) in their national survey of registered voters. They found that 66.5% of their respondents agreed with this statement regarding national politics. By the same token, the statement that best resembles paternalistic tendencies (*A good manager is like a good parent, who solves all your problems*) was checked by one third of the respondents in this small-scale survey of employees of five (5) work organizations. Duarte et al. (1995) found that 76.4% of their respondents agreed with this statement.

The decline in the subjects' identification with verbal expressions that perpetuate autocratic practices at work is evident in the low percentages of respondents who checked items #6, 7, 10, and 11; and the high percentage that checked item #1 (78.6%). An underlying support for more participatory management practices is reflected in the choice of items

#4 and 9. The fact that 81.7% checked item #4 (*Under the right circumstances, people are fully capable of working productively and accepting responsibilities*) and only 15.1% checked item #9 (*Most people are lazy and irresponsible and will work hard only when forced to do so*), reveals a strong identification with the values of McGregor's (1960) theory Y, as opposed to theory X. These two divergent views about human behavior at work stress autocratic values (theory X) and more participatory values (theory Y). This survey also found tendencies that contradict the findings of Duarte et.al (1995). For instance, Duarte et. al (1995) found that 50.4% of their respondents agreed with statement #7 (*A strong leader would do more for the organization than all procedures and systems in place*), while only 21.4% did so in this survey.

Table 5
Beliefs About Authority at Work

	Statement	Subjects	Percent
1)	<i>At work, it does not matter whether my boss is male or female</i>	99	78.6
2)	<i>I prefer more order at work, even if there is less democracy</i>	62	49.2
3)	<i>At work, I prefer to be lead by a man</i>	26	20.6
4)	<i>Under the right circumstances, people are fully capable of working productively and accepting responsibilities</i>	103	81.7
5)	<i>At work, I prefer to be lead by a woman</i>	5	4.0
6)	<i>The boss is always right</i>	13	10.3
7)	<i>A strong leader would do more for the organization than all procedures and systems in place</i>	27	21.4
8)	<i>A good manager is like a good parent, who solves all your problems</i>	42	33.3
9)	<i>Most people are lazy and irresponsible and will work hard only when forced to do so</i>	19	15.1
10)	<i>Strict discipline and punishing management is the best way to achieve results at work</i>	6	4.8
11)	<i>The Dominicans at work lose respect for managers who consult their employees in making decisions</i>	16	12.7

Concluding Comments

Descriptive data from this small-scale survey showed that some indicators of authoritarian behavior, identified in the context of the country's political culture, are reflected in relations manager-subordinate at work. The respondents to this survey perceived leaders at work, Dominicans in general, and other Latin American citizens they know as allowing little subordinate's participation in decision making. Regarding followership, the respondents perceived most of their peers, most of the employees in the country, and other Latin American citizens they know as exhibiting little activism, independence, and critical thinking at work. The way the respondents see themselves, their bosses, and the way they prefer to be delegated to reveal a limited level of subordinate authority in the delegation process. This survey also shows how deeply rooted is the concept of organizational hierarchy in the minds of the respondents. On the other hand, the subjects also reported that they would prefer to work under less authoritarian leadership and showed a clear decline in their identification with verbal expressions that perpetuate autocratic practices at work.

This survey shows clearly the convergence of a political culture caught between authoritarianism and democracy, and a managerial culture that emphasizes autocratic practices in a context that prefers higher levels of subordinate's participation at work. It also raises wider research questions. For instance, some questions for further research could be: a) if the political culture influences the managerial culture (as suggested by the data presented here), could changes in that political culture (let's say "toward democratization of politics") influence changes in the managerial culture? b) can changes in the managerial culture influence upwardly the wider political culture? What can initiatives aimed at developing managerial capacity in the country play in these changes?

Although this survey is limited to the five (5) work organizations studied, the similarity of its findings with other national studies suggests that efforts aimed at developing internal managerial capacity in the country should take into account these underlying autocratic tendencies in the workforce, as well as the underlying support for more participative management practices revealed in this survey. The author's conclusion is that management development and training efforts should focus primarily on challenging deep rooted beliefs and values about authority at work, and then address the development of surface competencies (managerial skills, knowledge and abilities) typically included in the content of management education and training. In summary, the scope and methodology for management development and training should focus on the benefits of participation in decision making, independent thought and action, critical thinking, and, above all, self-direction at work.

This survey had several limitations worth mentioning. First of all, its findings only apply to the five (5) work organizations where the study was conducted. They cannot be generalized to the entire country. References to nationwide studies were made in this paper only with the purpose of stressing similarities between political and work behaviors. Secondly, the portion reported here is just a discussion of the descriptive data from several survey items. This is still a work in progress. The author will analyze and report the findings related to the reciprocity leader/follower as it pertains to the use of control in the organization, opportunities for participation given to subordinates, and many other issues addressed in the survey. Thirdly, no background variables were incorporated to the analysis thus far, due to page limitations by AHRD (not even the five work organizations were compared/contrasted here). Finally, more qualitative data should be collected in the future to better understand the complex issues involved in the relation superior/subordinate at work.

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The Types of Verbal Interactions and Impact of Gender in Corporate Training Sessions

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This study describes verbal interactions in 13 selected training sessions across the United States using the INTERSECT Instrument. More than two-thirds of the interactions were found to be acceptance, the mere acknowledgment of a response by the instructor, with remediation accounting for about 21% and praise, 11%. Criticism occurred only 4 times, or .18%. Gender equity was found to exist in all training sessions.

Keywords: Gender Equity, Verbal Interactions, Praise

The average full-time female worker earns approximately 75 cents for every \$1.00 that the average male worker earns. Although this may be a flawed statistic because it ignores education and type of work, over 36 years after the passage of the Equal Pay Act, women are still a long way from workplace equality (Murphy, 1999, p. D8). It is hard to believe that women cannot earn what men do simply because they are female, but even in today's diverse workplace, old prejudices die hard (Krotz, 1999, p. 44).

Are the classrooms of the nation partly to blame for perpetuating a lower status for women in the business world? Male dominance of the mixed classroom, from nursery school to university lecture hall, has been well established by research spanning more than forty years (AAUW, 1992, p. 118; Whyte, 1984, p. 75). The issue is broader than the unequal number of teacher contacts with male and female students; it also includes the inequitable content of teacher comments. Teacher remarks can be vague and superficial, or they can be precise and penetrating. Helpful teacher comments provide students with insights into the strengths and weaknesses of their answers, and teacher reactions not only affect student learning but may also influence self-esteem (AAUW, 1992, p. 119).

Review of Related Literature

Dr. Myra Pollack Sadker realized that her educational experiences were different from those of her classmate and husband, Dr. David Sadker, and this led to the publishing of *Sexism in School and Society* (Frazier & Sadker, 1973). The Sadkers and others developed the INTERSECT (Interactions for Sex Equity in Classroom Teaching) Instrument to code interactions in classrooms where direct or active instruction was taking place (Sadker, Bauchner, Sadker, & Hergert, 1981).

The Sadkers, in conducting a study of more than 100 elementary and middle school classrooms, identified four types of teacher comments: praise, acceptance, remediation, and criticism. *Praise* included explicitly positive comments, such as "Excellent!" "Good!" "You've done a superb job of integrating your research material." *Acceptance* included teacher comments that implied student performance was accurate and appropriate, but the comments were not stated strongly enough to be categorized as praise. Examples include: "O.K.," "uh-huh," "I see," or simply teacher silence. *Remediation* included probing questions or teacher comments that encouraged or cued a more accurate or acceptable student response. Remediation implied a deficiency in student performance and suggested corrective action. Examples include: "Check your addition," "What led you to that conclusion?" *Criticism* referred to definitely negative comments, such as telling the student that an answer was incorrect (Sadker & Sadker, 1985, p. 31).

After extensive statistical analyses, the Sadkers painted the following picture of classroom life. Of the four evaluative reactions, criticism occurred least often and in the fewest classrooms, or in only 5% of teacher-student interactions. Praise accounted for 11% of classroom interactions, but in one-fourth of the classrooms, the teacher never praised student answers. Remediation occurred in 99% of the classrooms and accounted for one-third of all classroom interactions. Acceptance was the most frequently used teacher

response and accounted for more than half of all classroom interactions— more than praise, remediation, and criticism combined. This led the Sadkers to call it the "O.K. Classroom" (Sadker & Sadker, 1985, p. 360).

The Sadkers certainly did not question the value of accepting student comments. Sometimes it is the most appropriate type of comment a teacher can make, and it is very valuable when dealing with affective issues. However, they were concerned with the overuse of acceptance in interactions that focused on academic content. Research on teacher effectiveness has suggested that specific feedback is important for student achievement. John Goodlad (cited in Sadker & Sadker, 1985) wrote that, "learning appears to be enhanced when students understand what is expected of them, get recognition for their work, learn quickly about their errors, and receive guidance in improving their performances" (p. 360). If the teacher says, "Uh-huh," in response to a student's answer, what is the student to conclude? Was it a good answer, or was it barely passable? Was the teacher listening at all? The fact that over half of teacher responses fell into the bland and uninformative category of acceptance led the Sadkers "to wonder whether the O.K. Classroom is all that O.K.?" (1985, p. 361). Their observations also revealed that, when teachers initiated interactions, they continued to interact with children of the same gender as themselves, but it was more pronounced for male students. The Sadkers' data suggested that "classroom interactions between teachers and students were short on both quality and equality" (p. 361).

A study of 182 secondary vocational education classes in Kentucky showed that males not only received more interactions of acceptance and remediation, but also more praise and criticism. Both intellectual and behavioral exchanges were characterized by this pattern, which led the researcher to conclude that gender bias in Kentucky secondary vocational education programs was extensive and consistent with results of previous studies in a variety of educational settings (Smith, 1992, p. 191).

Cranston (cited in Simon, 1998, p. 13) wrote that learning is usually facilitated by active participation, and that interaction and discussion can be effective ways of being involved in the process. Cohen and Lotan (cited in Caruthers, 1996) stated, "Differences in classroom interactions can lead to differences in learning outcomes— that is, those who talk more, learn more" (p. 3).

Simon (1998) at the community college level found that gender was not a significant factor in either total interactions or in teacher-initiated interactions. However, there were significant differences in student-initiated interactions. Male instructors received significantly more interactions from female students, and female instructors received significantly more interactions from male students. This was in contrast to studies showing that male students initiated more interactions overall and particularly with male instructors. In two other studies where female students were found to initiate a significant number of interactions, it was with female instructors (Canada & Pringle, and Krupnick, cited in Simon, 1998, p. 127).

Extensive review of the literature revealed only one study in which adult learners in a human resource development setting have been evaluated in terms of their classroom participation. A study by Rocheford (1990) of a real estate sales training course found that males and females participated equally (p.6).

Research Questions

Do the human resource development classrooms of the business world give differential treatment to trainees according to gender? Who talks more— men or woman? Does the gender of the trainer make any difference in who talks more? What is the distribution of each type of contact (praise, acceptance, remediation, or criticism) to the total number of interactions? What is the actual percentage of classroom interactions for each gender?

Significance of the Study

The training and development of the human resources of the United States are important as never before. U.S. businesses must have highly skilled, well-trained workers to remain competitive in the world economy. Schools and universities will do their part, but the need is so great that the main responsibility for training and human resource development will have to be assumed by business (Gaudet & Vincent, 1993, p. 138). Training has been called the country's "shadow education system" (1993 Industry Report, 1993,

p. 29) because employers spend billions of dollars each year to train and educate their workers. Corporate education is arguably the largest provider of adult education in the nation, with an estimated one-third of the labor force receiving some type of formal training each year, accounting for billions of hours spent in company classrooms (Leach, 1989, pp. 325-326). According to Naisbitt and Aburdene (1985), training and education programs within U.S. business are so vast and extensive that in effect they represent an alternative system to the nation's public and private schools, colleges and universities (p. 166). Businesses are being forced to *make* rather than *buy* their supply of productive workers and have become involved in an arena that once belonged solely to education (Everett & Drapeau, 1994, p. 136).

At first corporations were not happy with their new role as educator, but they soon found that their investment in training really paid off. As former U.S. Commissioner of Education, Ernest Boyer, wrote, "It would be ironic if significant new insights about how we learn would come, not from the academy, but from industry and business" (Naisbitt & Aburdene, 1985, p. 178).

"Equitable teaching is a component of effective teaching" (Simon, 1998, p. 6). According to a study by the AAUW (cited in Smith, 1992), girls enter school approximately equal to boys in measured ability, but after twelve years they trail boys in critical areas such as mathematics achievement and self-esteem. This report also cited factors regarding the status of women after education, such as job segregation and lower salaries, to indicate a long-term bias against females (p. 184).

This study was designed to assist training professionals, human resource development managers, academicians, and other training providers in adding "precision and vitality to their interactions" (Smith, 1992, p. 190) with trainees by making them aware of the possibility of disproportional distribution of verbal interactions by gender, as well as by the patterns of verbal interaction—praise, acceptance, remediation, and criticism.

Implications for Practitioners

There is no comprehensive system for educating trainers. If classroom "teachers clearly need to know more about research of classroom interactions" (Sadker & Sadker, 1985, p. 361), then it certainly is true that trainers, many of whom have had little or no education in teaching, need to be conscious of their interactions with trainees. This study could help make trainers aware that all interactions should contain "both quality and equality" (Sadker & Sadker, 1985, p. 361).

Implications for Training Providers

In addition, the results of this study could assist faculty, staff, and administrators in colleges and universities; professional organizations; and other individuals who provide training to trainers. The findings of the study may be used in developing courses, seminars, workshops, and self-study materials to meet the needs of training professionals.

Research Design and Methodology

This study sought to determine: (1) whether one gender received a disproportionate amount of verbal interactions between trainers and trainees in human resource development training sessions; (2) the major form of feedback that trainees received from the trainer—praise, acceptance, criticism, or remediation; and (3) whether one gender received a disproportionate amount of helpful teacher comments, such as praise.

Instrument

The instrument used in this study to code training class verbal interactions was the INTERSECT (Interactions for Sex Equity in Classroom Teaching) Observation System, developed by Sadker, Bauchner, Sadker, and Hergert (1981). The INTERSECT Instrument was developed through the following procedures: (1) a comprehensive review of interaction instruments and research in general; (2) a comprehensive review of interaction instruments and research that pertained particularly to gender equity in classrooms; (3) field testing of the instrument in 36 fourth-, sixth-, and eighth-grade classrooms (Sadker, Bauchner, Sadker, & Hergert, 1981, p. 1).

The instrument was designed to measure teacher-student interactions and identify inequity and bias in the manner teachers interact with students. Since it was discovered that a typical classroom teacher involved in instruction has 1,000 verbal interactions per day with students (an average of two per minute), the rapidity of the interactions required that there be as few coding options as possible, while retaining the ability to capture the nature of the interactions (Smith, 1992, p. 187).

The instrument has been used in hundred of classrooms, including the college level. Reliability was set at 85% for inter-rater reliability agreement. Two raters looking at videotapes and at classrooms had to reach a minimum agreement of 85% for their results to be accepted. "Validity is construct validity— we are measuring what we say we are measuring, teaching distribution of attention by gender. It is what we count. The notion is teachers give more attention to students whom they interact with" (D. Sadker, personal communication, December 27, 1999).

The INTERSECT form contains three sections. The subject of the training session and the gender mix of the class, together with a diagram of the seating arrangement, are recorded in the first section. The second section includes categories on which the researcher records the type of interaction as it takes place, the gender of the trainee, and whether the interaction is initiated by the trainer or by the trainee. Although the instrument allows for measuring classroom content in the intellectual, conduct, and appearance categories, in this study, only interactions in the intellectual classification were observed and recorded. The third section of the instrument may be used to record "tone-setting" incidents, activities which are likely to encourage or inhibit gender equity in classroom interactions (Sadker, Baüchner, Sadker, & Hergert, 1981, p. 34).

Observer Reliability

This researcher observed the following process to become rater reliable on the INTERSECT Instrument: (1) Studied the *Observer's Manual for INTERSECT* and (2) attended a pilot study training session to become familiar with using the instrument.

Inter-Rater Reliability

For inter-rater reliability, audiotape was used to record the interactions between trainers and trainees (an average of three hours per session). A second doctoral student randomly selected six of the audiotapes. From these six tapes, the researcher and the other student listened to a total of 200 interactions and recorded the types of interactions. There was agreement on 92% of the items.

Target Population

The target population was persons of both genders involved in business and industry training sessions in various U.S. cities.

Sample

The sample for this study was drawn from 13 training sessions offered by a major HRD consulting firm. Eight of these sessions were held in the Midwest, two in the East, two in the South, and one in the West. While the content of the 13 sessions varied, much of the emphasis was on leadership and management development. Intact classes were used. Specific training sessions were observed based upon availability during the time period of this study, the agreement of the instructor to allow observation even though instructors were not informed about the purpose of the study, and the ability of the researcher to travel to training sites.

It is estimated that the trainees ranged in age from 25 to 50 years. They were employed as HRD managers and supervisors. Most were college graduates, several with advanced degrees, while others were working to complete master's and doctoral degrees. Many had several years of experience in the HRD field. Fifty-six (43%) of the trainees were male, and 73 (57%), female. Of the trainees, 116 (90%) were white; 6 (4%), Black; 4 (3%), Native American; 2 (2%), Asian; and 1 (1%), Hispanic. The number of trainees per session ranged from 4 to 18, for an average of 10. In all but one session, the minority gender composition was no less than 20%.

Ten of the trainers were male; six were female. All were white. Three of the sessions observed were team-taught. Two of the teams were comprised of one man and one woman, and the third, of two women.

Gathering the Data

The data were gathered by observation of trainers and trainees at training sessions using the INTERSECT form. Training programs ran from two to five days, although the researcher attended only one day of each seminar. Some programs were held at large hotels and conference centers, while others took place at company headquarters.

The classes were intentionally kept small so there could be more interaction. In addition to listening to lectures, where the trainers responded to answers, comments, and questions, students sometimes worked alone. Other times they worked in pairs, triads, and other small groups, which allowed the participants to interact and learn from each other's experiences. No observations were recorded during these times.

Findings

The findings are related to interaction feedback, interaction equitability, and trainer/trainee gender interaction effect.

Interaction Feedback

The total number of interactions between trainers and trainees in each class was calculated and divided into type of contact (praise, acceptance, remediation, and criticism). The ratio of each type of contact to the total was then computed, which represents the distributions of interactions as displayed in Table 1.

Table 1
Distribution of Interactions

Interaction Type	No.	%
Praise	232	10.63
Acceptance	1,496	68.56
Remediation	450	20.63
Criticism	4	.18
Total	2,182	100.00

As noted in the table, acceptance was, by far, the largest type of feedback, followed by remediation and praise. Criticism almost never occurred.

Interaction Equitability

Sadker and Sadker (cited in Smith, 1989 pp. 27-29) devised a measure known as the Coefficient of Distribution (COD) to adjust for the uneven distribution of males and females in a classroom and to reflect the distribution of classroom interactions based on actual classroom membership. This measure is determined by first counting the total number of students in the class and determining the number of males and females present. The total number of males and the total number of females are divided by the total number of students, which yields the expected percentage of interactions for each gender.

The total number of interactions in each class is then broken down by gender and ratios computed. The actual percentage of interactions per gender less the expected percentage is the coefficient of distribution. If it is a positive percentage, that gender is getting more attention than expected. Applying the rule of COD + 15% as educationally significant, the COD for the totals of both genders, - 4% for males and + 4% for females, indicated that a very even distribution of interactions occurred overall.

The equitability of interactions was also investigated through a series of t-tests based on the mean number of interactions per student per class. As indicated in Table 2, all p values were greater than .05; therefore, there were no significant differences between trainee gender in any category of interaction.

Table 2
Interactions per Trainee Per Class by Trainee Gender

Type of Interaction	Gender	No. of Interactions	Mean	t Value	P
Praise	Male	99	1.21	.91	.38
	Female	133	1.48		
Acceptance	Male	618	9.24	1.36	.20
	Female	878	11.61		
Remediation	Male	173	5.60	.83	.42
	Female	278	4.24		
Criticism	Male	2	.01	1.30	.22
	Female	2	.07		

Trainer/Trainee Gender Interaction Effect

Main and interaction effects based on the mean number of interactions per male and female trainee with male and female trainers were investigated with a two-way analysis of variance, as displayed in Table 3. Since all p values were greater than .05, there were no significant main or interaction effects.

Table 3
Analysis of Variance— Total Interaction^a Gender of Trainer/Gender of Trainee

					Main Effects		Interaction Effect	
	Gender	No. Trainees ^b	Mean ^c	SD	F	P	F	P
Instructor	Male	106	14.32	9.60	.37	.55	.46	.51
	Female	43	16.91	17.73				
	Total	149	15.29	13.18				
Student	Male	70	14.13	13.00	.14	.71		
	Female	79	16.45	13.37				
	Total	149	15.29	13.19				

^aN = 2,182

^bIncludes 20 trainees who were team-taught

^cMean number of total interactions per student

Discussion

The results of this study contradict previous gender research in schools but are similar to the results of the study by Rocheford (1990) of a sales training course in real estate. Rocheford also discovered there was no significant difference in interaction between the two genders.

The level of participation by females in the training sessions observed, as compared to the studies in the school, might be attributed to motivation of the women to succeed in their jobs. Also, a subjective observation was that women who are well educated seemed to exude self-confidence. In their introductions at the beginning of each class, many women spoke of having completed or being in the process of earning their master's or doctoral degrees. In addition, as they mature, women may lose their self-consciousness

about being with members of the opposite gender, which teenagers and younger adults often express. Rocheford (1990) gave another reason for women's level of participation:

In a professional training environment as opposed to an academic classroom setting, there are several correct answers. Participants are required to make judgment calls based on both the course content and their life experiences. This may reinforce a wider variety of learning styles than the traditional academic setting and give women greater confidence in their responses. (p. 7)

All of these suggestions, however, are hypotheses that have not been proven in this study. More study is needed about explanations before any of these guesses can be confirmed.

Conclusions

The following conclusions from this sample of business world classrooms can be drawn from the findings of this study:

1. There was gender equity in the verbal classroom interactions during instruction.
2. By far, acceptance, the mere acknowledgment of a trainee's response, was the major form of verbal interaction, followed by remediation and praise. Criticism almost never occurred.
3. There is no interaction effect between trainer and trainee based on gender.

Implications for Further Study

This study, together with Rocheford's research, indicated there might be equal participation of men and women in the classrooms of the business world, although further research would need to be done to determine if such is the case.

Would trainees learn more if there were more praise in their interactions with trainers?

Does seating arrangement make any difference in how much a person talks?

The data analysis in this study was limited to trainer-trainee interactions in the intellectual realm.

Analysis of non-verbal interactions might also be valuable.

Since peer-to-peer interaction was an important part of these training sessions, an analysis of these interactions might also be valuable.

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Developing Human Potential through Anthropocentric Work Organization

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Despite widespread recognition of the need to develop human potential at work, little attention has been paid to the relationship between work organization and HRD. A typology of forms of work organization is developed in terms of task complexity, task variety, task discretion and management control. Four workplaces are then studied which correspond with the four ideal-typical forms of work organization to explore the extent to which needs and opportunities for HRD are affected by work organization, the relationship with job satisfaction and the separate effects of skill and autonomy. The cases suggest that work organization affects HRD and job satisfaction, and the most positive effects are associated with greater skill and autonomy.

Keywords: Skill, Autonomy, Anthropocentric

There is a growing literature citing evidence that HRD strategies play a crucial role in improving performance and sustaining competitive advantage (Arthur, 1994; Carter and Lumsden, 1988; Cutcher-Gershenfeld, 1991; Huselid, 1995; MacDuffie, 1995; Winterton and Winterton, 1999). The rediscovery of the importance of the 'people factor' has also become prevalent in new management thinking, which emphasises the need to harness the skills and energies of the whole workforce and to develop motivation, commitment and leadership at all levels (Bennis, 1999; Dessler, 1999; O'Shaughnessy, 1999). Since the pioneering work of Hackman and Oldham (1976; 1980), however, there have been few attempts to get behind the rhetoric that 'people are our greatest asset' (Sisson, 1994: 7) and the cliché with every pair of hands a brain comes free' (Cannell, 1993: 64), to explore how these can be translated into designing meaningful work that allows people to develop and to use their brains.

This paper contributes to the debate by investigating HRD practice in four workplaces exhibiting different forms of work organization. A theoretical model is outlined for categorising different approaches to work organization in terms of the level of skill and degree of autonomy. Three research questions are then articulated concerning the relationship between HRD and different forms of work organization, and a methodology for investigating these empirically is outlined. Four workplaces, selected in terms of their work organization characteristics, were investigated and the findings are discussed before drawing together the conclusions of the cross-case analysis and highlighting the significance of the research for advances in HRD theory and practice.

Theoretical framework

The way that work is organized and tasks assigned to individuals are major determinants of how individuals experience work. According to Hackman and Oldham (1976; 1980), provided the organizational environment is satisfactory (in terms of hygiene factors), individuals having a strong attachment to accomplishment and growth will be motivated to superior performance, experience higher job satisfaction and exhibit higher retention (lower absence and turnover) where work is designed around five core dimensions. When the five core dimensions (skill variety, task identity, task significance, autonomy and feedback) are fulfilled, individuals experience three psychological states (meaningfulness of work, responsibility for work outcomes and knowledge of results of work activities) that are associated with improvements in motivation, performance and QWL measures. Hackman and Oldham (1975; 1980) demonstrated how these core dimensions could be stimulated through a series of 'implementing concepts' (combining tasks, forming natural work units, establishing client relationships, vertical loading and opening feedback channels) and provided a job diagnostic survey to measure both the core dimensions and the critical psychological states.

Skill and autonomy are defining characteristics of the structure of work organization and the core dimensions that are most dependent upon HRD. In the Hackman and Oldham model, 'skill variety' conflates the variety of

tasks undertaken with the range of *skills* deployed, while 'autonomy' is interpreted as the opportunity to decide how to do the work. Further conceptualization of these two core dimensions is therefore necessary to explore the relationship between work organization and HRD. The degrees of task complexity and task variety affect the skills required, while the extent of task discretion and management control delimit the autonomy allowed. The alternatives can be explored by combining pairs of these dimensions.

Figure 1 Task variety, task complexity and skill

<i>task variety</i>	task complexity	
	low	high
<i>high</i>	multi-tasked	multi-skilled
<i>low</i>	Taylorist	craft

In the case of skills, the two dimensions are task complexity and task variety, which are combined in Figure 1. Each dimension is a continuum, but for the sake of theoretical abstraction, each is posited as a dichotomous 'high' and 'low'. The combination of low task variety with low task complexity is typified by Taylorist work organization, where work is minutely sub-divided into tasks involving a small range of relatively narrow skills. The work of mass production operatives is often organized in this way, and is complemented by craft work involving specialist (low variety) and highly complex tasks, such as those undertaken by fitters (mechanics) and electricians. Where there is little task complexity but more task variety, whether through frequent product changes or job rotation within a Taylorist production system, this can be viewed as multi-tasked. By contrast, high task variety with high task complexity is characterised as multi-skilled, exemplified by an 'electro-mechanical' craft worker, who undertakes the hybrid work of both fitter and electrician.

Figure 2 Task discretion, management control and autonomy

<i>management control</i>	task discretion	
	low	high
<i>low</i>	routinized	autonomous
<i>high</i>	monitored	responsible

In relation to autonomy, the two dimensions are task discretion and management control, which are combined in Figure 2. Again each dimension is a continuum, but for the sake of theoretical abstraction each is posited as a dichotomy, 'high' and 'low'. The combination of low task discretion with high management control is described as 'monitored'; whereas low task discretion combined with low management control is characterised as 'routinized'. Either is consistent with Taylorist work organization, and the degree of management control may reflect the extent to which errors have serious implications: where mistakes have only a minor impact, there is little to be gained from investing excessive management control. High task discretion combined with high management control is characterised as 'responsible'; whereas high task discretion combined with low management control represents 'autonomous' work.

The extremes of the skill and autonomy typologies developed in Figures 1 and 2, then, are Taylorist v. multi-skilled and monitored v. autonomous. Again, these should be seen as the extremes of continua rather than the dichotomous variables that have been created in order to develop the theoretical argument. By combining these two dimensions, as in Figure 3, four ideal-typical forms of work organization can be distinguished.

A Taylorist skill strategy combined with monitored control creates a form of work organization that still represents the prevailing mode of production in manufacturing industries, and appears to be replicated in some emerging industries, such as call centres. Individuals perform a narrow range of tasks requiring only shallow skills, their work is closely monitored and individuals have little task discretion. Such separation of conception and execution, where managers are supposed to do the thinking and operatives carry out their instructions, is the

very antithesis of developing human resources. Since the purpose of such job design is to intensify the rate of production, such work organization is characterised as 'intensive'.

Figure 3 A typology of work organization

variety/complexity	control/discretion	
	monitored	autonomous
multi-skilled	holistic	anthropocentric
Taylorist	intensive	teamwork

The limitations of traditional work organization have long been recognised in Japan. For example, Konsuke Matsushita commented in 1979:

We are going to win and the industrial West is going to lose out: there is nothing much you can do about it, because the reasons for your failure are within yourselves. Your firms are built on the Taylor model: even worse: so are your heads. With your bosses doing the thinking while the workers wield the screwdrivers, you're convinced deep down that this is the right way to run a business. For you, the essence of management is getting the ideas out of the heads of the bosses into the hands of labour. We are beyond the Taylor model: business, we know, is now so complex and difficult, the survival of firms so hazardous in an environment increasingly, unpredictably, competitive and fraught with danger, that their continued existence depends on the day-to-day mobilization of every ounce of intelligence. (Molander and Winterton, 1994: 147).

These limitations became apparent later in the UK, and in recent years there have been signs of a departure from traditional 'intensive' work organization (Kelleher, 1996), stimulated by discussion of new forms of work' (Piore and Sabel, 1984; Kern and Schuman, 1987). The most significant restructuring of work organization appears to have been underpinned by innovative vocational training arrangements based on social partnership between employers and trade unions (Winterton and Winterton, 1994).

Several companies, especially in the chemicals sector, re-designed work in ways that demanded broader and deeper skills, such as diagnostic and analytical skills to trouble shoot and keep equipment running. To do this, workers need a conceptual understanding of the process which goes beyond a daily operational working knowledge, and a broader range of skills and competences. This approach is described as 'holistic', in contrast with the fragmented skills and knowledge associated with Taylorist work. Another solution has been to devolve a degree of decision-making and control to work groups, so that while tasks remain fragmented, the full range of operations is performed by a team, who need a broader range of skills and have more control over their pace of work. This approach, characterised as 'teamworking', has been especially prevalent in the clothing sector. Relatively few examples exist of companies that have combined extensive multi-skilling with autonomy, but *a priori* reasoning would suggest that this should provide the sort of work organization conducive to self-actualization and growth, according to motivation theories. Such work organization is therefore described as 'anthropocentric' or human-centred since it is assumed to be most suited to satisfying human needs.

Research questions

Different types of work organization demand different degrees of investment in HRD, and different forms of work organization constrain the opportunities for experiential development. To move beyond such generalization, however, requires the formulation of more precise research questions. Three questions were articulated for empirical investigation:

- To what extent, and in what ways, are the needs, and opportunities, for HRD influenced by different forms of work organization?
- To what extent is job satisfaction associated with forms of work organization that involve developing human potential?

- To what extent can the effects of skill and autonomy be distinguished and which has more influence on job satisfaction and HRD needs and opportunities?

Methodology

To investigate the above research questions, a case study approach was adopted because the work was intended to be both exploratory and illustrative. The research is exploratory in that it investigates the concepts of skill and autonomy in actual work settings and illustrative in that it offers examples from lead sites in four different industrial sectors. A further reason for adopting the case study method is the recognition of the importance of contextual factors, since any study of skill requires a detailed examination of work in context' (Crompton and Jones, 1988: 80). The choice of cases is justified in terms of focused sampling', entailing the selective study of particular persons, groups or institutions, or of particular relationships, processes or interactions that are expected to offer especially illuminating examples' (Hakim, 1987: 141).

The workplaces were identified from information obtained in four earlier studies. The first involved an analysis of changing work relations in the coal industry as a result of new technology (Winterton, 1985). The second explored the introduction of new forms of work organization in the clothing industry (Barlow and Winterton, 1996). These two studies were part of long-running projects on industrial restructuring in the two sectors (Winterton and Winterton, 1998; Taplin and Winterton, 1996; 1997). The third study looked at trade union involvement in vocational training arrangements in six workplaces (Winterton and Winterton, 1994), while the fourth examined the business benefits of competence-based management development in sixteen workplaces (Winterton and Winterton, 1996). These last two studies were undertaken on behalf of the European Commission and the UK Government, respectively.

From this earlier work, four workplaces were selected which appeared to correspond most closely with the four cells in the work organization typology in Figure 3:

- A coal mine in North Yorkshire where considerable job restructuring had taken place in order to promote functional flexibility and where there were daily struggles over work intensification (*intensive*).
- A clothing manufacturing plant in Staffordshire where team working had been introduced to raise job satisfaction and improve labour retention (*team work*).
- A chemicals plant in West Yorkshire where operatives had undergone training and development both to undertake more skilled tasks and to gain more holistic understanding of the chemical processes (*holistic*).
- An engineering factory in Bedfordshire where quality control had been developed to self-directed teams of operatives who had become multi-skilled (*anthropocentric*).

In each workplace, semi-structured interviews were conducted with senior and line managers, trade union officials and a selection of workers. To ensure comparability and to maximise the scope for analytical generalization, a standardised case study protocol was designed (Yin, 1988), which included the interview schedules, written evidence to be examined and an outline structure for the case reports

Results and findings

The results of the four case studies are reported separately below and cross-case conclusions presented in the next section.

Coal mining

The colliery studied is in Selby, the most technologically advanced mine complex in the world, with the application of computerised monitoring and control, heavy duty technology and retreat mining methods throughout. Work restructuring centred on functional flexibility, designed to increase the return on capital investment through fuller utilisation of assets. Union branch officials viewed the objectives more as reducing manpower and intensifying work in order to increase profitability. While the development of new technologies was acknowledged as a factor facilitating job restructuring, the defeat of the 1984-85 miners' strike (Winterton and Winterton, 1989) was seen as more significant and the major changes occurred after 1992, when the back of the union was broken' at the pit following geological problems. The colliery workforce was reduced from 450 to 197 and sub-contractors were brought in to replace development workers.

Extensive functional flexibility had been introduced: surface fitters did welding jobs and electro-mechanical craft workers had replaced electricians and fitters. Process workers also displayed extensive flexible working, with

loco drivers undertaking methane boring and surface workers deployed generally to a whole range of tasks. Craft workers in face teams were involved in driving the shearer, 'thocking' (moving the face supports) and putting packs on' (building timber supports at the gate ends). Face workers undertake nuisance breakdown repairs: 'every miner now carries a spanner'.

The job restructuring was associated with very little increase in task complexity for most workers because new technologies were designed to reduce dependence on skilled workers (Winterton, 1985). Fitters, for example, are now doing very little fitting ... the work tends to involve module replacement'. A proportion of electricians had acquired new conceptual skills in connection with remote control and monitoring equipment. Task variety increased significantly: most people now have more jobs to do'. Managers told union officials that their objective is to multiskill everybody', but for the most part, greater task flexibility has not involved the acquisition of additional skills so much as using skills individuals had already acquired.

In general, the new work organization is more concerned with increasing task flexibility than with the acquisition of additional skills, so no significant HRD initiatives are involved. Nevertheless, task flexibility is extensive and there is evidence of substantial job restructuring. The attraction of the job restructuring to management is in terms of reducing manpower and therefore total labour costs, and in increasing machine utilisation. The benefits to individual workers seem minimal in that the skills are largely non-transferable, there is no additional remuneration for increased task flexibility, the pace of work is intensified and there is widespread evidence of job dissatisfaction.

Clothing

The enterprise, part of a principal clothing contract supplier, made ladies' trousers for a high-street chain store. In the workforce of 250 at the site studied, all the machinists were female and approximately half were under 18 years of age. The company was experiencing difficulties both in attracting and retaining labour, and labour turnover was running at 90 per cent, compared with the industry average of 27 per cent (Taplin and Winterton, 1999).

New work organization centred on teamworking in the assembly stage was designed to improve labour retention. Teamworking replaced the traditional progressive bundle system, where lines of machines are arranged in the order of operations and bundles of sub-assemblies are passed along the line, with machinists specialising in one operation. With teamworking, each team of eight workers was assigned a U-shaped bank of stand-up sewing machines covering the full range of operations, from overlocking to buttonholing. The machinery and tasks generally remained the same, but the system required machinists to be able to do a wider range of tasks. The initial aim was to have all machinists competent in 50 per cent of the 12-14 tasks required for an individual style, but an average machinist is able to perform three operations, and tends to concentrate on one. One of the biggest problems with the progressive bundle system was line balancing. Team working was designed to aid line balancing so that machinists could move to perform operations where the need was greatest to keep the operation running smoothly.

Task variety increased, and all machinists were able to do more operations than before. Task complexity also increased, firstly, because it takes an individual longer to learn several operations, and secondly because line balancing involves all team members in understanding the whole process. Operational skill requirements have not changed significantly, but conceptual skill needs have changed quite considerably. On the traditional system a machinist did not have to think at all, but just undertake the same simple task or operation repeatedly'. In the new system, by making teams responsible for their own line balancing, machinists need to employ a much higher level of conceptual skills.

Management cited several positive outcomes of the new working arrangements. The attempts to reduce labour turnover were very successful. In the first year the labour turnover was down from 90 per cent to 25-28 per cent (in line with the industry norm) and absenteeism fell from 10 per cent to 6-7 per cent. Nevertheless, teamworking offered the advantages of higher earnings and less work tedium. The machinists are earning more, but under payment by results, they are also working harder. All of the machinists interviewed preferred the new system because it was less boring than the traditional lines, and while they also felt that they had to work harder, none wanted to return to traditional work organization.

The new work organization necessitated the acquisition of a broader range of skills, and making teams responsible for line balancing significantly increased the conceptual skills required, but it was the relative autonomy of teamworking rather than the acquisition of additional skills which had this effect.

Chemicals

The company comprises the fine chemicals division of one of the UK's leading transnational chemicals groups, having several plants in the UK and elsewhere in Europe. The total workforce, excluding contractors, in the fine chemicals division is 830, of whom 57 per cent are blue-collar workers. Labour turnover is low, under 2.5 per cent, and the average length of service is about 15 years. Management is committed to HRD, claiming there is a direct link between training and performance improvement which leads to enhanced profitability.'

Blue-collar workers are 100 per cent unionized and the Union initially brought forward a draft flexibility agreement for discussion. Management responded positively, and the resulting agreement established a framework to harmonise the conditions of employment of all employees and improve the profitability and competitiveness of the company, by changing the working practices and skills of employees.' The flexibility agreement was also designed to improve the quality of working life in terms of job enhancement and increased autonomy.

For process operatives, work organization was altered both in terms of increased task variety, through additional maintenance tasks, and increased task complexity: more is expected of the shop floor operative now in terms of knowledge of the process'. The restructuring of work organization therefore necessitated HRD initiatives to facilitate the acquisition of new operational and analytical skills in both process operators and craft workers. The new skills were acquired through a range of in-house structured training programmes jointly developed by management and Union. The training philosophy outlined in the flexibility agreement centred on enhancing skills and requiring employees to accept flexibility and mobility within their normal jobs.

The main benefit of multi-skilling, especially of process operatives, was in reduced plant down-time. Other benefits cited by management include the removal of demarcation mentality'. Union representatives thought workers had gained not only in terms of higher earnings but also in increased job satisfaction and control over their immediate work environment. Process workers confirmed the satisfaction of not standing around waiting for a fitter to arrive and effect a simple repair'.

Engineering

The company, formerly part of a large UK engineering group, is a specialist manufacturer of aeroplane components, with a total workforce of 320 at a single factory. When the company moved to modular manufacture, multi-skilling and autonomous work groups were introduced, and these were supported by extensive HRD initiatives.

At the centre of the multi-skilling initiative was a Four Star Plan' which rewarded people for the acquisition of lateral skills and to facilitate movement between work cells. All maintenance workers were trained to be multi-skilled electro-mechanics, and in addition many have specialist skills associated with the company's particular requirements. Production workers were trained to undertake routine maintenance repairs. Job restructuring did not generally increase task complexity, since tasks are a function of the range of products, but it substantially increased task variety, depending upon an individual's star rating. A related initiative, Delegated Authority', established autonomous work groups, removing inspectors over a four-year period and making workers responsible for their own quality assurance.

Union collaboration in the organization of Four Star Plan was crucial to its success and working groups comprising shop stewards, workers, supervisors and managers in each department jointly identified the core skills of each work cell. The Four Star Plan was eventually abandoned because it had become apparent that there were problems in rewarding flexibility and not rewarding individuals who concentrate on developing depth of skills. Also, the extent to which individuals were able to develop new skills depended on the areas in which they worked. Broader operational skills have been developed and Delegated Authority, has increased the conceptual skills substantially: individuals need to be able to identify whether something is right when inspecting their own work'.

The impact of these initiatives on profitability and productivity is difficult to measure, but there was anecdotal evidence of improved quality, and absenteeism fell from 6 per cent to 2.7 per cent. The direct workers appear to have gained most from multi-skilling, in terms of increased task variety and responsibility as well as the opportunity to deploy more conceptual skills.

In this case, multi-skilling entails the acquisition of significant new (lateral) operational skills, and, in conjunction with Delegated Authority, the introduction of higher conceptual skills. Increased task flexibility is a

key objective of the changes. There are evident benefits to the workforce both in terms of additional remuneration and increased job satisfaction deriving from the task variety and responsible autonomy built into the jobs.

Conclusions

Just as these case studies are exploratory and illustrative, so the conclusions that can be drawn are equally exploratory and tentative. Considerable care was taken to select workplaces that closely matched the characteristics associated with the four ideal-typical forms of work organization outlined in the typology. Even so, there are limits to the generalization that is possible from a study based on a single case of each type and the conclusions are advanced with this caveat made explicit. Further empirical work is needed to explore whether these findings are replicated in other settings, especially in workplaces that are less easily placed in the four cells of the typology.

Returning to the questions posed above.

- To what extent, and in what ways, are the needs, and opportunities, for HRD influenced by different forms of work organization?

Work re-organization in the engineering and chemicals cases has necessitated and facilitated the acquisition of significant new skills, both lateral (mainly operational) and vertical (mainly conceptual). In the clothing case, both task complexity and task variety increased with the introduction of teamworking, the first demanding new conceptual skills but the second not requiring significant lateral skills. In the coal mining case, the emphasis is on task flexibility and the fuller utilisation of existing skills, rather than the acquisition of new skills. The engineering and chemicals cases required substantial additional on-the-job training to equip individuals with the necessary skills to cope with the demands of increased task variety and task complexity. Training in the clothing case was less extensive, while in coal there was no additional training, with the exception of those craftworkers involved in maintaining the remote control and monitoring systems.

- To what extent is job satisfaction associated with forms of work organization that involve developing human potential?

The four cases show significant variation in the extent of job satisfaction and the extent to which workers appear to share the benefits of new forms of work organization. The engineering case showed the clearest linking of remuneration to the acquisition of new competences, although the additional remuneration was more significant in absolute terms in the chemicals case, and, in relative terms in the clothing case. All three cases also showed increased job satisfaction associated with greater autonomy. By contrast, in the coal case, there was no additional remuneration for accepting greater flexibility and no reported improvements in job satisfaction.

- To what extent can the effects of skill and autonomy be distinguished and which has more influence on job satisfaction and HRD needs and opportunities?

In these four cases, the effects of increasing skill and autonomy can be distinguished and it appears that raising skill demands has a greater impact upon job satisfaction than increasing autonomy, since the chemical workers appeared to have gained more from job restructuring than the clothing workers. However, increased autonomy did also lead to improved job satisfaction, as evidenced by reduced absence and turnover, and without doubt, the combination of multi-skilling and autonomous work, as in the engineering case, had most impact on reported job satisfaction. Both multi-skilling and autonomous work were also associated with HRD needs and opportunities, especially when combined.

The four cases can be considered to range along a continuum from coal, through clothing and chemicals, to engineering. Autonomy and skills increase along this continuum, and with these so does the extent of HRD and job satisfaction. Further research is necessary to explore whether these findings are replicated and to assess the separate contributions of the component parts of the autonomy and skill dimensions. Such research will require the identification of workplaces that conform with the intermediate cells in the typologies of Figures 1 and 2, as well as further cases of the ideal-typical forms of work organization already considered, for replication.

These preliminary findings are nonetheless relevant for HRD in three respects. First, they show that work organization has an effect on HRD initiatives and that HRD is both facilitated and necessitated by forms of work organization that require greater skills and autonomy. Any departure from traditional 'intensive' work organization will demand more HRD and provide more opportunities for development, but the combination of multi-skilling and autonomous work, 'anthropocentric' work organization, offers most opportunity for developing human potential. Second, these results confirm the association, long assumed, between HRD and job satisfaction: developing people at work enhances their experience of work and results in tangible benefits in reported

satisfaction and behavioural indicators such as absence and turnover. Third, if anthropocentric work organization is the key to flexibility with security, then HRD practitioners will need increasingly to orient their efforts towards developing skills alongside autonomy and to enskilling an empowered workforce.

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